ENVIRONMENTAL QUALITY MANAGEMENT, INC.

MEMORANDUM

To: Steve Norton, MDEQ **Date:** August 26, 2011

Subject: Portage Creek Groundwater Fate **From:** John Wentz, PE

File: 030281.0087 **cc:** Eric Bowman, RM

Steve,

This memorandum has been prepared following our telephone conversation of Thursday, August 25, 2011. During the telephone conversation, we discussed the U.S. EPA Region Superfund Project being performed along Portage Creek for removal of PCBs from the creek bed and subsequent restoration.

The project will involve remediation of PCBs along approximately 1.8 miles of the bed of Portage Creek. The approach is to begin work at the most upstream location, install a sheet pile dam, install several additional sheet pile dams to produce several isolated cells, pump the flowing creek surface water around the isolated cells, and discharge the "pump around water" directly into the creek after the last isolated cell. As the cells are remediated, the work will progress downstream.

Each isolated cell will have the surface water removed. This removal will be performed using shallow well points in or very near to the isolated cell to draw down the shallow ground water and the surface water and/or surface pumps. This water will be processed through a 1,000 gpm wastewater treatment system consisting of flow equalization and settling, filtration, residual oil removal (oil is not anticipated in the sediment, however there will be local roadway storm water drains for which we are anticipating some conveyance of roadway oil and grease during storm events that will require removal prior to the carbon), activated carbon, post-filtration, and direct discharge back into the creek. The discharge will be performed under an SRD which is currently in the application process.

Concurrently with the drawdown and removal of the surface water from within the cell, the groundwater will be drawn down using deeper well points installed a slightly further distance from the isolated cell. These well points will be connected to a vacuum header, connected to a vacuum pump. This will be groundwater extracted to lower the groundwater in the cell under remediation in order to stabilize the soil/sediment and excavate the material. The smaller cells will be approximately 8,800 square feet (sf) and are expected to produce approximately 1,000 gpm of continuous groundwater. The larger cell will be approximately 15,000 sf and is expected to produce 2,200 gpm of groundwater. The contaminant of concern in the creek sediment is PCBs and due to the nature of PCBs, we both concurred on the phone that the PCBs would not be mobile and progress downward with the lowering of the groundwater as they will remain attached to the particulates at/near the surface. As a result, we would like to direct discharge the lower groundwater removed for the site remediation directly back into the creek at the downstream location beyond the last isolated cell.

Per our telephone conversation, it appears that the pump around water and the groundwater removal can be directly discharged after the last isolated cell without additional permitting, treatment. You did mention that the discharge would require configuration to minimize sediment disturbance at the discharge location.

EQ requests a response indicating that our understanding of the pump around water and the deeper groundwater systems do not require permitting or treatment. If this is not the case please identify any requirements that would be anticipated. Thank you for your prompt response.